Should I trust this image ?

Cédric Maigrot, Ewa Kijak, Vincent Claveau

Should I trust this image ?

Cédric Maigrot Ewa Kijak Vincent Claveau
{firstname}.{lastname}@irisa.fr

Computer !
Help me !

Is this image forged ?

Interested in these data?
Have a look here!
hoaxdetector.irisa.fr

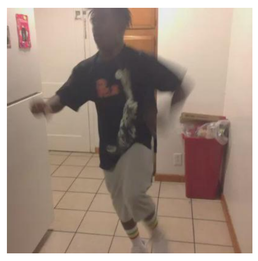
Can I find similar images?

Query

Candidate 1

Candidate 2

Candidate 3



Candidate 4

Candidate 5

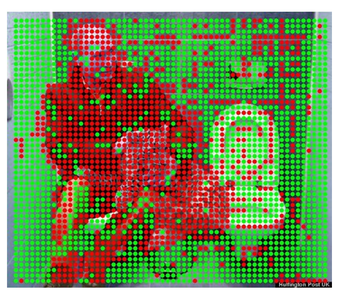
How these images differ?

Detecting the outliers

Query

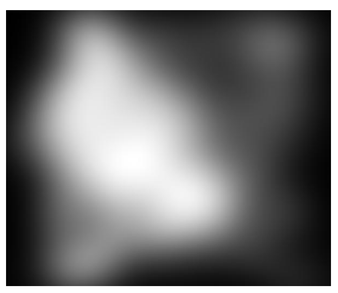
Selected candidate

Estimated homography

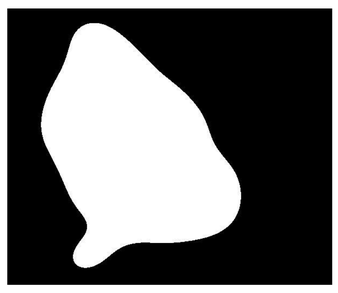


Outliers

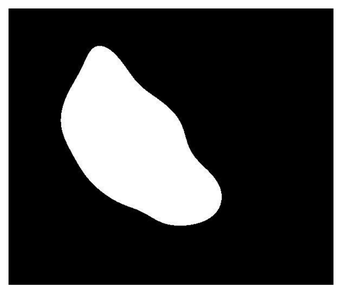
Transforming the outliers into a binary map



Outliers density map (DM), gaussian kernel



Binarized DM ($\theta = 0.50\times$ max)



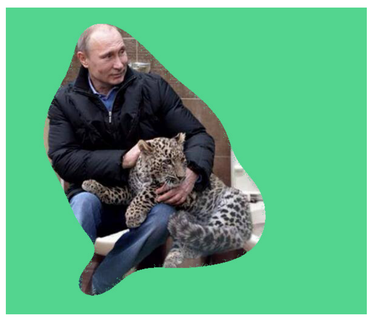
Binarized DM ($\theta = 0.75\times$ max)

Binarized DM, uniform kernel

Ground truth

Ok, and then, what can be said?

Modifications characterization



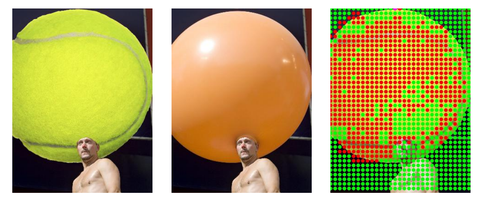
Detected area extraction ($\theta = 0.50$)

Type of modification:

- Text
- Shape
- Person
- Other

Which one is the original image?

Is there any visual information relevant to identify the original image?



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